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ABSTRACT

A study examined reading performance data on 659,214 students in grades K-12 for the 1994-95 school year to determine the possible effect of literature-based reading practice on student performance in schools of various kinds. Using a computer-based testing program to measure student reading practice, the study compared the amount of practice students received in small and large schools as well as in private and public schools. It also observed the trends in reading practice across grades, and compared amounts of practice between high- and low-performing students based on standardized test results. Key findings include the following: (1) high school students on average spent about as much time in literature-based reading practice as kindergarten students; (2) when ranked according to the amount of reading they do, students in the top 5% read 144 times more than students in the bottom 5%; (3) students in schools with populations of 200 or fewer engaged in twice as much reading practice as those in schools with populations of 1,000 or more; (4) students in private schools practiced reading 67% more than public school students; and (5) students in the highest-performing states in the NAEP Reading Study engaged in 59% more reading practice than those in states in the bottom quartile. Findings suggest that the amount of literature-based reading students received explains the varying reading performance of individual students, various categories of schools, and regions. In the context of previous studies, these findings make a compelling case for adopting substantial in-school reading practice time throughout the grades. (Contains 13 figures and 27 notes. "A Reader's Bill of Rights" is attached.) (Author/RS)

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PATTERNS OF READING PRACTICE

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BY TERRANCE D. PAUL

CS013257

Included with this study is "A Reader's Bill of Rights." These core concepts for promoting a reading program are guiding principles for creating a community of readers. It can be found on Page 27.

PATTERNS OF READING PRACTICE by Terrance D. Paul

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PATTERNS OF READING PRACTICE

How differences in reading practice explain differences in schools and students. Why every student has a right to sixty minutes of TWI time per day.

By Terrance D. Paul

CS0133357

Foreword by Keith J. Topping

Director, Centre for Paired Learning
University of Dundee, Scotland

ABSTRACT *This study examines reading performance data on 659,214 students in grades K-12 for the 1994-1995 school year, to determine the possible effect of literature-based reading practice on student performance in schools of various kinds. Using a computer-based testing program to measure student reading practice, the study compares the amount of practice students receive in small and large schools as well as in private and public schools. It also observes the trends in reading practice across grades, and compares amounts of practice between high- and low-performing students based on standardized test results.*

The key findings of the report include the following:

- *In-school reading practice time declines markedly after grade five. By the time they reach high school, students on average spend about as much time in literature-based reading practice as kindergarten students.*
- *When ranked according to the amount of reading they do, students in the top 5 percent read 144 times more than students in the bottom 5 percent.*
- *Reading practice varies dramatically by the size of the school's population. Students in schools with populations of 200 or fewer engage in twice as much reading practice as those in schools with populations of 1,000 or more.*
- *Students in private schools practice reading 67 percent more than public school students.*
- *Students in the highest-performing states in the NAEP Reading Study engaged in 59 percent more reading practice than those in states in the bottom quartile.*

Based on these findings, the report concludes that the amount of literature-based reading students receive explains the varying reading performance of individual students, various categories of schools, and regions. In the context of the Institute's previous studies, it is argued these findings make a compelling case for adopting substantial in-school reading practice time throughout the grades.

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Foreword

by Keith J. Topping, *BA, MA, PhD, C.Psychol., FBPS, FRSA*
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Reading is a skill. The more you do it, the better you become. The better you become, the less effort it takes. The less effort it takes, the more you can do – and the more you want to do. Unfortunately this positive spiral also operates in reverse. For the weaker reader, it is a vicious circle. This is then compounded by avoidance on the part of the student. Sometimes it is also unwittingly worsened by teacher behaviour, such as relegating students down the basals, over-interrupting their attempts at oral reading with premature prompts, and excessive focus on the lengthy decoding of particularly difficult words.

It's rather like learning to swim. You don't learn well if you avoid the water – but it should be neither too deep nor too shallow, and flotation aids should be used, but only if and when needed. You learn to swim by swimming, and to read by reading. As Frank Smith says: "Read it as if it makes sense and perhaps it will."

All this homespun stuff is pretty obvious – yet the awful truth is that students spend very little time reading in school, and about the same amount of time reading at home. All teachers would assert that reading is important – yet in many cases their students are actually doing very little.

This important study from The Institute for Academic Excellence contributes substantially to previous research evidence, indicating that lack of reading practice is a major cause of low reading standards. Even more alarmingly, it provides the first evidence that the already small amount of reading practice in schools actually *declines* after fifth grade. It also documents evidence that the lack of reading practice is a particular problem in our larger public schools.

However, there is some good news as well. This study also shows that states which have high levels of reading practice have the highest levels of reading achievement on NAEP tests. In addition, those schools which have implemented the Accelerated Reader computer-aided reading comprehension and management program for longer show higher rates of reading practice.

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Thus, the research work of the Institute is showing the way forward, which is supported by their extensive programme of learning and development opportunities for educators, especially within the Reading Renaissance framework. Perhaps in the deluge of new (and often contradictory) fashions within education, some simple truths became obscured. This study helps us to refocus upon them. The action implications are straightforward but potentially profound in their impact. The Institute is to be congratulated on this powerful and socially responsible contribution to effective education for all students.

Keith Topping
Department of Education, Hong Kong University.
18 April 1996

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INTRODUCTION AND BACKGROUND This study is a continuation and extension of the 1992 and 1993 national studies of literature-based reading. These studies documented the critical importance of in-school reading practice time for development of reading and problem-solving skills, and were the largest studies ever conducted on the impact of literature-based reading. Since their publication, more than 400,000 copies have been distributed to educators across the United States.

Because of the potential for substantial improvement in test scores predicted by the 1992 and 1993 studies for students receiving 60 minutes of in-school reading practice time, the Institute created a program of classroom-proven strategies to establish 60 minutes as a recommended standard, and enable teachers to effectively manage this time. The term TWI was created to describe a comprehensive and developmentally sound concept of reading practice applicable throughout the grades as well as with special education and ESL students. (TWI stands for Read To, Read With, and Read Independently). The complete package of tested practices and procedures was named Reading Renaissance™ and became the focus of a series of seminars and staff development activities for teachers, principals, and librarians. During 1994 and 1995, the Institute's staff trained more than 3,000 educators in Reading Renaissance techniques. Many of the educators who attended those seminars have added significant amounts of reading practice time to the school day. Many are working toward the goal of 60 minutes of TWI time daily. As of this writing, we estimate that approximately 10 percent of our trainees may already have achieved 60 minutes of TWI, a total of as many as 300 classrooms.

The reports of success from those teachers and schools who have set aside 60 minutes of the school day for reading practice have been extremely impressive, and have evidenced the validity of the '92 and '93 studies. Typically, teachers who fully adopt the program report their students' standardized test scores increase at twice the "normal" rate. Library circulation more than doubles. Scores in other curriculum areas improve in sync with reading scores. In addition, teachers report an improvement in affective measures, such as discipline, attendance, and self-esteem.

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Study Objectives

Having seen the positive impact of additional reading practice time, we wondered if existing differences in reading practice might explain some of the differences in student performance in various kinds of schools. Three areas which particularly intrigued us were state-by-state performance differences[1], small versus large school differences[2], and parochial/private schools versus public schools[3]. We were also interested in understanding the changes in reading practice by grade. In which grades do students read the most? Which the least? Presumably, it would be most effective to begin implementing expanded TWI time in grades that are currently the most deficient in reading practice. Finally, how much variation in reading practice is there between high- and low-performing students? In summary, in this study, our inquiry is directed at examining differences in the patterns of reading practice between different groups.

As with the '92 and '93 studies, the Accelerated Reader™ (AR) reading management software[4] was used to measure reading practice. AR points are a reliable gauge to measure the quantity of literature-based reading practice because they are based on accepted quantifications of the challenge presented to students by any given text. In addition, an estimated ratio of points earned per hour of reading practice time, based on the results of the previous Institute studies, can be used to compare estimated reading time between students, schools, or groups.

The Theory of Reading Practice

Because the theory of reading practice is the core concept of this study and the previous studies, it is important to have a basic understanding of it. The theory of reading practice is a more formal expression of the old adage, "Practice makes perfect": The more you read, the better you read. The 1992 and 1993 studies were directed at providing quantifiable evidence confirming the theory of reading practice. Surprisingly, as intuitively sound as the theory is, before the '92 and '93 studies, there was little reliable evidence to support it. Quantitative proof was difficult because accurately measuring the quantity of student reading on a large scale was difficult. Counting books students said they read, observing the amount of reading done, and using student time logs are all notoriously inaccurate. Also, virtually all the

previous studies were of fewer than 200 students[9]. None measured reading practice accurately in terms of number or difficulty of words processed, and therefore offered no quantifiable basis for generalization or comparison. However, with the application of the new technology of computerized reading management, it is relatively easy to measure reading practice reliably and accurately, thereby permitting comparisons and conclusions based on very large data samples. Samples of this size dramatically reduce the statistical margin of error and the potential of anomalies to distort the patterns derived from them – both hazards inherent in the small-sample studies that dominate much of current education research.

Here is how the Accelerated Reader computerized reading management system works. Students select a book to read from a recommended book list. The AR system assigns a point value to each book based on the number of words in the book and its reading level, using a well-known readability index[10]. The index considers the number of syllables in words and sentence complexity. Below is the formula the AR test writers use to calculate the point value of a book using reading level and number of words.

$$AR\ Points = (10 + Reading\ Level) \times \frac{(Words\ in\ Book)}{100{,}000}$$

Once the student reads a chosen book, he or she goes to the computer and takes a test on the book he or she has read. The test consists of five, ten, or twenty objective questions about important facts in the book. The computer scores the test, awards the student points based on test performance, and keeps a complete record of results. For a book worth ten Accelerated Reader points, like *Black Beauty*, a student would receive ten points for a score of 100 percent, nine points for 90 percent, etc. The student must score at least 60 percent on the test to earn any points. This makes it extremely unlikely that a student can earn points without reading the book with some comprehension. Careful test writing and security features in the software greatly reduce the possibility of student cheating. AR points are therefore a fairly accurate measure of the quantity of words being read and comprehended, and therefore, an accurate measure of reading practice.

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Reading Versus Reading Well: The Concept of Automaticity

One of the educational myths in this country is that students are not learning to read. The book that created the myth was *Why Johnny Can't Read* with its sequel, *Why Johnny Still Can't Read* [1]. Actually, there are very few Johnnys, Susans, and Sams that don't read at all. We teach kids how to read, but we don't do a good job of helping kids learn to read well. Too many kids are reading two and three years below grade level, far below their potential. Reading well is the principal reading problem, not learning the mechanics of reading. While educators argue about what works best to teach reading – look say, whole word, phonics [2], and the like – they often ignore the more critical process of acquiring reading automaticity, the skill of reading well, reading fluently with comprehension [3].

When we first learn to walk, ride a bicycle, or drive a car, it takes our full attention and concentration to just manage the basics. If we are distracted for even an instant, we lose control. That's the case when a skill is not yet automatic. After enough practice, though, the brain can handle the skill effortlessly, unconsciously, which in turn frees us to look around, enjoy the ride, to think. It is the same with reading. If we are struggling to just sound out the words, if we are hesitant readers, the brain is unable to handle the next stage of reading, which is comprehension, constructing meaning from text [4]. Without comprehension, there is no joy in reading and no motivation to read.

Dimensions of Reading Practice It is not enough, though, to say that reading automaticity requires plenty of practice. We need to be precise as to what kind of reading practice we mean. In its broadest sense, reading practice includes any activity in which a student is processing words. Researchers have long known that improvements in reading skills come from listening, speaking, and writing, communicating in general, in addition to reading text. In a broad sense, it's the richness of the entire literacy environment that determines how well we read [5]. Our work at the Institute and the Reading Renaissance program is directed at enhancing and improving the literacy environment. By enhancing the total literacy environment both at school and at home, we can help students become better able to construct meaning, and therefore become better readers.

Our study, however, relies on a more narrow definition of reading practice: Literature-based reading, the reading of trade books as opposed to textbooks. Typically, this is what is meant when a teacher says she has set aside ten minutes a day for SSR (Sustained Silent Reading). During this time, students are reading fiction or nonfiction trade books from the library, rather than textbooks.

It is this focused concept of trade book reading which the Accelerated Reader measures. AR, therefore, is directly measuring only a piece of the total literacy environment. However, from our previous studies, we know it must be a very important piece. Indeed, our research findings and our experience with schools with at-risk populations lead us to believe that the quantity of trade book reading is the best single predictor of test score performance and success in schools, and is a better predictor than either socioeconomic factors or parental education. The reason why this is so is because trade book reading, in addition to being an independent variable influencing reading ability, is also reflective of the total literacy environment. The presence of trade books at home or school is an indicator of a literacy-rich environment in which reading is reinforced as a pleasurable and important activity[7]. In other words, the quantity of trade book reading is a measure of reading practice in both a narrow and broad sense, which in turn is the reason it is so predictive of test score results.

ZONE OF PROXIMAL DEVELOPMENT AND THE READING LEVEL OF THE BOOK In addition to the kind of text read, another way to look at reading practice is in terms of reading level. To become a truly accomplished reader, it is not enough to become "automatic" at using a 500-word vocabulary. One needs to become automatic with a vocabulary of 50,000[8] or more words. This, in turn, requires repeated exposure to less frequent and more difficult words in a meaningful context. In other words, a student will not become a proficient 12th-grade-level reader by reading only 4th-grade books. On the other hand, simply exposing a 4th-grade reader to 12th-grade books will be equally ineffective if the student cannot understand what he is reading; it only results in frustration and a dislike for reading. The level at which a student is being challenged by exposure to new vocabulary and concepts without being frustrated is the

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zone of proximal development. The zone of proximal development is the reading level at which reading practice will promote maximum development.

Law of Diminishing Returns and Theory of Reading Practice

Besides predicting that the more one reads, the better one reads, the theory of reading practice also predicts that additional reading should cause more improvement in poor readers than average or outstanding readers. To illustrate why this should be true, let's assume we can measure the amount of reading practice students do in terms of units of practice. Assume that a 6th-grade reading level, 20,000-word book equals one unit of reading practice. Further, assume a poor reader's normal reading practice is four units, an average reader eight units, and an outstanding reader 16 units. If a poor reader reads the book, this would represent a 25 percent increase in reading practice. If the average reader reads the same book, it would only be a 12.5 percent increase in reading practice. And for the outstanding reader, it would only represent a 6.25 percent increase in reading practice. Therefore, the theory predicts that students with higher reading ability will need to read more to get the same amount of improvement as a slower reading ability student. In essence, the theory of reading practice incorporates the law of diminishing returns.

TWI and Other In-School Reading Models

In-school reading practice goes by a variety of acronyms. We have already introduced the Institute term, TWI. Other acronyms, by no means a complete list, include SSR (Sustained Silent Reading), USSR (Uninterrupted Sustained Silent Reading), DEAR (Drop Everything And Read), FUR (Free Uninterrupted Reading), SQUIRT (Sustained Quiet Uninterrupted Reading Time), IRT (Independent Reading Time), and WART (Writing And Reading Time). Regardless of the name, all of these reading practice programs share several common characteristics.

- A fixed amount of classroom time is set aside each day.
- Students read independently.
- Students read trade books (literature-based reading).
- Students select their own book to read.
- The teacher will typically model the activity by reading a book aloud.

Based on our research and work with teachers, the problems with traditional in-school reading practice programs are fourfold: 1) Too little time is set aside per day; 2) Inadequate attention is given to Read To and Read With activities in the context of reading development; 3) They lack clear, specific expectations for student accountability and teacher intervention; 4) A preoccupation with SSR leaves kindergarten, first grade, special education students, English as second language (ESL), and other emerging readers out. Other than modeling, the teacher is not actively involved. We believe the Institute concept of IWI to be the most developmentally sound and inclusive concept for in-school reading practice programs. Under the IWI concept of reading practice, beginning readers are read books aloud (the Read To stage). As students progress, there is an interactive one-on-one assisted reading stage where a student works with an adult or more experienced reader. This may be unstructured and informal, or it might include a highly structured approach such as with Reading Recovery™, paired reading[4], or Duolog Reading™ programs. Regardless, all students go through this assisted reading stage. We call this the Read With stage. Finally, there is the Independent reading stage, where students read books silently on their own. However, even when a child becomes an established reader, it does not mean that 100 percent of her reading practice should be done independently. Reading is a social skill, and shared reading activities are an important part of reading development. Research has consistently demonstrated the importance of read-aloud activities for all grades, including high school[5]; also, even very good readers can benefit from assisted reading of difficult texts[6]. In other words, the mix of Read To, Read With, and Independent reading changes as students improve in their reading. Independent reading practice may become 90 percent of the mix, yet reading practice should always include some amount of Read To and Read With for optimum development.

Besides being more developmentally comprehensive and inclusive, the Institute's application of the LWI concept within Reading Renaissance also provides for a more active and important role for the classroom teacher. Besides modeling reading behavior, the teacher also takes Status of the Class daily and provides important guidance for book selection. The teacher's role is critical, both for motivation and for assuring that each student is reading an appropriate book within his or her individual zone of proximal development.

SUMMARY OF 1992 AND 1993 FINDINGS Because the present study is in some respects a continuation of the work from the 1992 and 1993 studies, it may be helpful to review their primary findings. For the 1992 study, reading points and standardized test scores for 4,498 elementary and middle school students, ranging in age from six to 16 years, were submitted by teachers from 64 schools. As mentioned previously, this study found a significant correlation between the number of AR points earned and students' growth in reading ability as measured by standardized reading tests. At right is a chart from the 1992 study showing the impact of increments of reading practice.

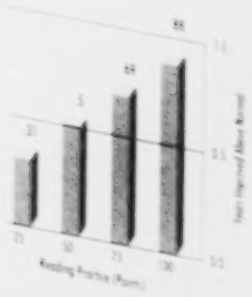

FIGURE 1

Average Yearly Reading Ability Gains Above Normal Related to Accelerated Reader Points Earned *(1992 Study)*

By observing the points earned per hour by a group of 30 students of mixed reading abilities, and applying the derived function to the survey data, the study proposed a model predicting the impact on student performance of an additional daily hour of reading practice. As predicted by the theory of reading practice, students who began with the lowest ability showed the greatest gains as a result of literature-based reading. The predicted growth for students who start with a low reading

achievement score is 1.66 grade levels over normal one-year growth (2.66 grade levels in total) for every 60 minutes per school day of literature-based reading. In practical use, this model has proven to be a reliable and accurate tool for predicting student reading growth.

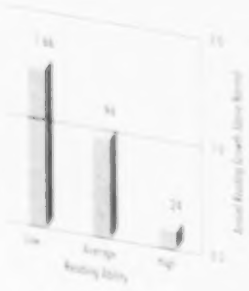

FIGURE 2

***Predicted Reading Growth for Additional Hour of Reading per Day** (1992 Study)*

The 1993 study looked at an even larger student sample – 10,124 students from 136 schools. This study confirmed the conclusions we had drawn in 1992. In addition, the study revealed that the amount of practice correlates positively with improvements in standardized *math* scores as shown in Figure 3, below right. This finding supports the "reading fallout theory," that when there is significant improvement in reading ability, there is a concomitant positive effect in other subject matter areas and critical thinking skills.

Based on composite information from the '92 and '93 studies and field reports from schools that have 60 minutes of EWI per day, we estimated the relationship between reading ability, points earned per practice hour, and expected growth in reading above normal on standardized tests. That estimate is shown in Figure 4 on the next page.

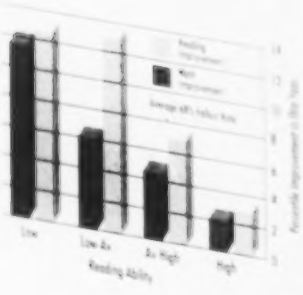

FIGURE 3

***Reading and Math Ability Improvement per 100 Accelerated Reader Points** (1993 Study)*

FIGURE 4

EXPECTED AR POINTS AND READING GROWTH FOR 60 MINUTES OF TWI TIME

Tested Reading Level (Not Grade Level)	Expected Points per Year for 60 Minutes of TWI	Expected Growth Above Normal in Years
1	60	1.0
2	75	1.0
3	90	1.0
4	100	0.9
5	125	0.8
6	150	0.8
7	175	0.8
8	200	0.7
9	225	0.6
10	250	0.5
11	275	0.4
12	300	0.3

We have applied this table extensively since 1993 in the schools with which we work, and have found it is very useful for establishing individual, student, and school reading practice goals. For any given amount of TWI time allotted, the expected number of points to be achieved and growth over normal can be derived. Reversing the terms of this equation, then, permits us to estimate the amount of literature-based reading practice time on the basis of AR points earned.

SUMMARY OF 1996 FINDINGS: PATTERNS OF READING PRACTICE The 1992 and 1993 studies showed the significant correlation between reading practice as measured by AR points and improvement in reading and math skills.

This 1996 study focuses on the patterns of reading practice by grade, by type of school, and among states. In addition, it measures the impact the Accelerated Reader has in increasing reading practice over time. Also, data from previous studies were re-analyzed to assess how reading practice varies among different groups of students. Six areas were studied in all, and the results are summarized on page 16.

For the present study, a survey was undertaken to collect point data from schools using AR. The survey was mailed in May of 1995. Thirteen thousand schools nationwide which owned AR for more than four months were surveyed. Two thousand, one hundred ninety-three schools responded with data on 659,214 students in grades K-12. The ethnic mix and socioeconomic factors of students in these schools roughly approximated that of United States schools generally. Figure 5 shows the number of students, schools, and points reporting by grade.

FIGURE 5

SURVEY SIZE

Grade	Schools	Number of Students	Points
K	205	13,200	40,012
1	703	45,736	299,792
2	1,012	65,115	770,772
3	1,252	84,192	1,406,374
4	1,382	95,754	2,041,306
5	1,363	96,574	2,559,969
6	992	89,122	2,371,403
7	644	75,109	1,826,959
8	581	64,018	1,624,809
9	101	13,414	179,606
10	68	6,323	107,378
11	64	5,859	77,503
12	51	3,630	60,758
SE	16	1,16£	40,532
TOTAL	2,193*	659,214	13,407,173

* Since most schools include several grades, this total is not a sum of schools included in grade categories.

For the '94-'95 school year, 659,214 students in the survey earned 13,407,173 points. This equates to over two million books read! In other words, this is a very large nationwide study of literature-based reading.

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1. READING PRACTICE BY GRADE As the table shows, in the typical school the amount of literature-based reading practice increases until the sixth grade and then declines. Instead of measuring reading practice in terms of points, another meaningful way to measure reading practice is in minutes. Using the previous Institute research from Figure 4, we can convert points by grade to minutes.

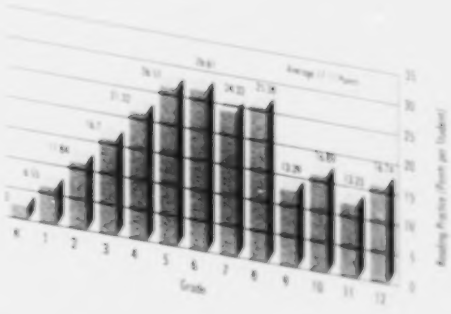

FIGURE 6

Reading Practice by Grade – Points per Student

(1994-95 School Year)

As can be seen by this analysis, the peak reading practice years are the 4th and 5th grades. By the 6th grade, even though students are processing approximately the same number of words (points of 26.61 in the 6th grade, versus 26.51 in the fifth grade), the actual time devoted to reading practice has begun a substantial decline. By the 9th grade, students are only practicing their reading about as much as kindergartners, 3.6 minutes per day. The average amount of practice for all grades is 7.1 minutes. These estimates of reading practice time are consistent with the findings of other researchers in smaller studies[7].

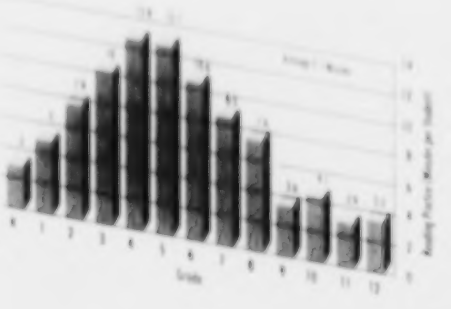

FIGURE 7

Reading Practice by Grade – Minutes per Student

(1994-95 School Year)

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Because the survey data indicate only the amount of reading practice which resulted in Accelerated Reader testing, other trade book reading may have occurred that is not reflected in the data. Additionally, as we discuss above, trade book reading is not the only kind of reading practice possible. As a result, these derived estimates of reading practice time can serve only as an approximation for comparative purposes. However, given the consistency of these estimates, both with the results of earlier studies as well as with observations about reading performance in different kinds of schools, we feel they are extremely valid and useful tools for answering our initial questions about the impact of reading practice.

2. Reading Practice Versus Length of Use of Accelerated Reader Software

The longer the Accelerated Reader management software is on campus, the more students read. There was a 64 percent increase in reading practice for schools using AR for four or more years versus schools using AR for just one year.

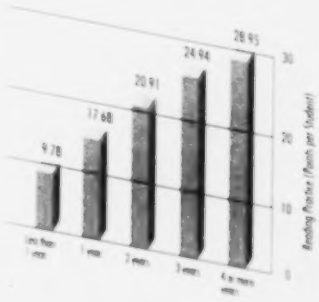

FIGURE 8

Reading Practice versus Length of Use of Accelerated Reader Software *(1994-95 School Year)*

3. Reading Practice in Public Versus Private Schools

FIGURE 9

Public Versus Private Schools

School Type	Students in Sample	Reading Points Per Student
Public	608,338	19.34
Private	50,876	32.24

Private schools in the sample did 67 percent more reading practice than public schools.

4. READING PRACTICE BY SIZE OF SCHOOL Research has shown that students in small schools perform better academically than those in large schools[7]. We wondered if reading practice could explain some of the difference. To eliminate the impact of private schools, which tend to be smaller than public schools, and the impact of consolidation that occurs at middle and high school levels, we isolated data for grades three through six in public schools for analysis.

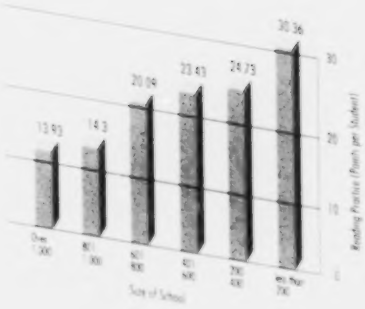

FIGURE 10
Reading Practice by Size of School *(Public Schools, Grades 3-6)*

These findings suggest that significantly more literature-based reading occurs in small schools than large schools. Comparing schools with fewer than 200 students to those with over 1,000, there is more than twice as much reading practice per student occurring in small schools. Even when the population differential is reduced to compare schools with fewer than 400 students to those with more than 800, the difference remains striking: The small schools exceed the larger by 73 percent.

5. STATE DIFFERENCES IN READING PRACTICE The largest, most recent, and most comprehensive study of differences among states in reading performance is the 1994 National Assessment of Educational Progress (NAEP) Study by the U.S. Department of Education[8]. This study ranked 39 participating states in terms of their students' reading performance. To determine if there is a relationship between those rankings and reading practice, we grouped all the states for which we had data for at least 3,000 students into high, average, and low-performing state groups. Twenty of those states were also among the 39 states ranked in the NAEP study. We grouped these by quartiles, and designated the top quartile "High-Performing States," the bottom quartile "Low-Performing States," and the remaining two quartiles as "Average-Performing States."

FIGURE 11

HIGH-PERFORMING VERSUS LOW-PERFORMING STATES

	Average NAEP Score	Average Reading Points Per Student
High-Performing States: Wisconsin (3), Iowa (6), Indiana (12), Minnesota (14), Utah (15)	221.4	39.2
Average-Performing States: Missouri (16), Pennsylvania (17), North Carolina (18), Virginia (20), Tennessee (23), Texas (24), New York (25), Kentucky (26), Alabama (29), Georgia (30)	213.3	25.1
Low-Performing States: Florida (33), S. Carolina (35), Mississippi (36), Louisiana (38), California (39)	202.0	24.7

( ) designates NAEP Rank

Average points per student suggest that the amount of reading practice being done in the high-performance states is significantly more than either average or low-performing states. Reading practice in average-performance states is also greater than low-performing states, but the difference is not nearly as large.

6. READING PRACTICE OF HIGH-PERFORMING VERSUS LOW-PERFORMING STUDENTS The survey used for the 1996 study did not collect point data by individual students. However, the 1992 and 1993 studies did collect such data, although it was not organized in the study reports in order to highlight the variations in student reading practice so much as it was to determine the correlation between reading practice and reading and math test performance. Shown below is a new analysis of data from the 1992 and 1993 studies which highlights the variation in reading practice for low-performing and high-performing students. Figure 12 on page 20 compares reading practice for low-quartile and high-quartile students.

FIGURE 12

HIGH-PERFORMING VERSUS LOW-PERFORMING STUDENTS

Grade	Average Reading Points per Student		Percent Difference in Reading Practice Low to High
	Low Quartile	High Quartile	
K-3	10.1	34.1	338 percent
4	17.0	61.6	362 percent
5	20.9	70.3	336 percent
6	22.4	78.9	352 percent
7-9	19.4	80.0	412 percent

This shows there is a very significant difference in terms of reading practice. Essentially, high-quartile students are practicing their reading 3.4 to 4.1 times more than low-quartile students.

However, when we compare the top 5 percent of readers to the bottom 5 percent, the differences are even greater. The top readers read 144 times more than the bottom readers!

FIGURE 13

Reading Points Lower 5%	1
Reading Points Upper 5%	144
Percent Differences in Reading Practice (Low to High)	14,400%

This huge difference in reading practice goes a long way to explain why students in the top 5 percent are such very good readers, and why students in the bottom 5 percent are five to six grade levels behind by the tenth grade.

Policy Implications and Conclusions

Every reading specialist, reading teacher, and reading researcher agrees that reading practice is critical to becoming a successful reader and successful in school. The Institute's 1992 and 1993 studies demonstrated a dramatic and compelling correlation between reading practice and improvements in reading and math scores. This study shows that some of the differences in small school versus large school performance, public versus private school performance, and even differences between state systems can be explained by differences in reading practice. Additional analysis undertaken here of the 1992 and 1993 studies highlights the huge differences in reading practice between high-performing students and low-performing students.

In spite of the fact that everyone agrees, and all the evidence shows that reading practice is extremely important, it is shocking to discover that schools allocate so little time to it. We would find it laughable if a high school football coach sent his team onto the field for a big game having practiced seven minutes a day. Yet our schools send students onto the field of life having practiced the essential skill of reading an average of only seven minutes per day over their entire academic career.

We at the Institute will continue to research and refine our model of reading development. However, there is no need to wait for more research to identify precisely how much time schools should allocate. We know that 60 minutes of IWI is possible, and that it results essentially in a doubling of the rate of reading growth for the average student, and tripling the rate for disadvantaged students. We have substantiated the fallout effect of reading practice. We have a significant amount of anecdotal evidence that problem solving and critical thinking skills improve, that discipline and absenteeism improve, and that students enjoy reading and school more. Teachers who "borrow" time from other subjects to devote to IWI report that improved learning efficiency that results from reading improvement more than compensates for the loss of time. Reading is the essential skill.

Every school for every grade (K-12) should have 60 minutes of IWI per day. Every student has a right to it.

NOTES

1.

Paul. Terrance. (1992). *1992 National Reading Study and Theory of Reading Practice.* Madison, WI: The Institute for Academic Excellence.

Paul. Terrance. (1993). *National Study of Literature-Based Reading. How Literature-Based Reading Improves both Reading and Math.* Madison, WI: The Institute for Academic Excellence.

2.

Paul. Terrance, et al. (1995). *Fundamentals of Reading Renaissance.* Madison, WI: The Institute for Academic Excellence.

3.

Clements, M. (1995). Tackling the multi-age classroom. *Reading Renaissance Journal.* 1(2), 2-3.

Dubuque, C. (1996). Reading Renaissance at high school. *Reading Renaissance Journal.* 1(4), 2-3.

Lind, J. (1995). Total reading. *Reading Renaissance Journal.* 1(1), 2-3.

Peak, J. and Dewalt, M. (1994). Reading achievement: Effects of computerized reading management and enrichment. *ERS Spectrum.* 12: 31-34.

Smith, B. (1996). Sparking a Reading Renaissance Revolution: A media specialist's story. *Reading Renaissance Journal.* 1(3), 2-3.

4.

Langer, J., Applebee, A., Mullis, I., & Foertsch, M. (1990). Learning to read in our nations schools. Instruction and achievement in 1988 at grades 4, 8, and 12. Princeton, NJ: National Assessment of Educational Progress.

Williams, P., Reese, C., Campbell, J., Mazzeo, J., & Phillips, G. (1994). 1994 NAEP Reading: A first look. National Center for Education Statistics. Washington, DC: Government Printing Office.

5.

Fowler, J. and Walberg, H. (1991). School size, characteristics, and outcomes. *Educational Evaluation and Policy Analysis.* 13(2), 189-202.

6.

A seminal study of this relationship is found in Coleman, J., Hoffer, T., & Kilgore, S. (1981). Public and private schools: An analysis of high school and beyond. National Center for Education Statistics. Washington, DC: Government Printing Office.

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NOTES

Marsh, Herbert W. (1991). Public, Catholic single-sex, and Catholic coeducational high schools: Their effects on achievement, affect, and behaviors. *American Journal of Education*. May 1991. 320-357.

7.

Anderson, R. C.; Wilson, P. T.; & Fielding, L. G. (1988). Growth in reading and how children spend their time outside of school. *Reading Research Quarterly*, 23(3): 285-303.

Campbell, J.; Kapinus, B.; & Beatty, A. (1995). Interviewing children about their literacy experiences. National Center for Education Statistics. Washington, DC: Government Printing Office.

Watkins, M. & Edwards, V. (1992). Extracurricular reading and reading achievement. Do rich stay rich and the poor don't read. *Reading Improvement*, 29, 236-242.

Williams, P.; Reese, C.; Campbell, J.; Mazzeo, J.; & Phillips, G. (1994). 1994 NAEP Reading: A first look. National Center for Education Statistics. Washington, DC: Government Printing Office.

Williams, S. & Mcgee, R. (1994). Reading attainment and juvenile delinquency. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 35, (3), 443-459.

8.

Accelerated Reader reading management software is published by Advantage Learning Systems, Inc., Wisconsin Rapids, WI.

9.

The first known study documenting the importance of reading practice was by W. Uhl in 1917. Curiously, because of the lack of children's books at that time, Uhl led the movement to create basal readers as a way to increase in-school reading practice. See Shannon, P. (1988). Broken promises: Reading instruction in twentieth century America. 21-25. Bergin and Garvey Publishers, Inc., Promises: MA.

Taylor, B.; Frye, B.; Maruyoma, G. (1990). Time spent reading and reading growth. *American Educational Research Journal*, 27, 351-362.

Wilkerson, I.; Wordrop, J.; Anderson R. (1985). Silent reading reconsidered. *American Educational Research Journal*, 37, 351-362.

10.

Since January 1994, Advantage Learning Systems, Inc., the publisher of the Accelerated Reader, has used an automated program which utilizes the Flesch-Kincaid reading index to determine readability. See Flesch, R. (1974). *The art of readable writing with the Flesch readability formula*. New York: Harper & Row; and Kincaid, J. P. et al. (1988). Machi (Computer reading ability editing system. TEEE Transactions on professional communications.) Prior to 1994, Advantage Learning Systems used the Fry Readability Index. See Fry, E. (1968). A readability formula that saves time. *Journal of Reading*, 11, 513-516.

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Notes

For an updated summary of research on readability, see Chall, J. and Dale, E. (1995). *Readability revisited: The new Dale-Chall readability formula*. Cambridge, MA: Brookline Books.

11.

Flesch, R. (1946). *Why Johnny can't read*. New York: Harper and Row.

Flesch, R. (1981). *Why Johnny still can't read*. New York: Harper and Row.

12.

We are not saying that phonics instruction doesn't work. Indeed, the preponderance of research clearly supports a balanced phonics approach. However, once students learn sound-symbol relationships, large amounts of reading practice are needed to develop reading competence. A more careful and comprehensive look at research in phonics is: Adams, M. J. (1990). *Beginning to read*. Cambridge: MIT Press.

13.

Samuels, S. (1988). Decoding and automaticity: Helping poor readers become automatic at word recognition. *The Reading Teacher*, 41, 756–760.

Samuels, S. & Farstrup, A., eds. (1992). *What research has to say about reading instruction*. Newark, DE: International Reading Association.

14.

Pugh, K., Shaywitz, B., Shaywitz, S., Fulbright, R., Byrd, D., Skudlarski, P., Shankweiler, D., Katz, L., Constable, R., Fletcher, J., Lacadie, C., Marchione, K., & Gore, J. (1996). Early brain organization for phonological processing and word recognition. *Journal of Learning Disabilities*, 29, 636–646.

15.

Goodman, K., Goodman, Y., & Hood, W. (1989). *The whole language evaluation book*. Portsmouth, NH: Heinemann Educational Books.

McNeil, J. (1992). *Reading comprehension: New directions for classroom practice*. Third Edition. New York: HarperCollins.

Wells, G. (1981). *Learning through interaction: The study of language development*. Cambridge: Cambridge University Press.

Wells, G. (1986). Creating the conditions to encourage literate thinking. *Educational Leadership*, 43 (6), 13–17.

16.

Anderson, R. C., Hiebert, E., Scott, J., & Wilkinson, A. (1985). *Becoming a nation of readers: The report of the commission on reading*. The National Academy of Education. National Institute of Education.

Notes

Mentis, I. M. (1994). *Literacy development in the early years*. (Eighth edition) Needham Heights, Boston: Allyn and Bacon.

17.

The most striking characteristic about different children's vocabularies is their variation in size. M. Smith found that some first-graders had larger vocabularies (ranged from 5,900 to 32,000 words) than twelfth graders (ranged from 28,500 to 73,200 words). Adult vocabularies also range from about 40,000 to 150,000 words.

Smith, M. (1941). Measurement of the size of general English vocabulary through the elementary grades and high school. *Genetic Psychology Monographs, 24*, 311–345.

Lorge, I. & Chall, J. (1963). Estimating the size of vocabularies of children and adults: An analysis of methodological issues. *Journal of Experimental Education, 32*, 147–157.

18.

Dickinson, J. (1995). Partner reading and writing: Day-to-day doing and the zone of proximal development. *Journal of Reading Behavior, 27* (1), 45–63.

Earl, Lorraine. (1995). Improving reading growth through the applications of Vygotskian principles and educational computer technology. [e-literature based reading programs. Presented at the International School Psychology Colloquium, University of Dundee, Scotland.

Hoppe, R. & Gallimore, R. (1991). *Reading mind to mind: Teaching, learning, and schooling in social context*. Cambridge: Cambridge University Press.

Vygotsky, L. (1962). *Thought and language*. E. Hanfmann and G. Vakar, Trans.). Cambridge, MIT Press.

19.

Orr, E. (1994). *Reading a communication*. Fourth Edition. New York: Macmillan Publishing Company.

20.

Ota, Mere. (1993). *Reading recovery: Guidebook for teachers in training*. Birkenhead, Auckland, New Zealand: Heinemann Education.

21.

Topping, K. J. (1995). *Paired reading, spelling and writing*. The Handbook. London: Cassell.

Topping, K. J. and Lindsay, G. A. (1992). Paired Reading: A review of the literature. *Research Papers in Education, 7*, 3, 199–246.

Wheldall, K. & Limbrick, L. (1994). The Rosemere peer tutor project. *Behavioural Approaches with Children, 8*, (2), 62–65.

NOTES

22.

Paul, Terrance, et al. (1995). *Fundamentals of Reading Remediation*. Madison, WI: The Institute for Academic Excellence. Direkt and Direkt Reading are service marks of The Institute for Academic Excellence.

23.

Meyer, L., Wardrop, J., Stahl, S., & Linn, R. (1994). Effects of reading storybooks aloud to children. *Journal of Educational Research*, 88, (2), 69-85.

Robbins, C. & Ehri, L. (1994). Reading storybooks to kindergarteners helps them learn new vocabulary words. *Journal of Educational Psychology*, 86, (1), 54-64.

Trelease, J. (1995). *The Read-Aloud Handbook. Fourth Edition*. New York, NY: Penguin Books USA Inc.

24.

Topping, K. J. and Lindsay, G. A. (1992). Paired Reading: A review of the literature. Research Papers in Education, 7, 3, 199-246.

Vaughn-gaynor, M., Williams, R., & McLaughlin, T. (1994). Use of assisted reading to improve reading rate, word accuracy, and comprehension with ESL Spanish-speaking students. *Perceptual and Motor Skills*, 79, (1), 227-230.

Wasser, S. & Lois, A. (1984). The Rosemont peer tutor project. Behavioral Approaches with Children, 8, (2), 62-65.

25.

Goodlad, J. (1984). A place called school. New York: McGraw-Hill.

26.

Fowler, W. & Walberg, H. (1991). School size, characteristics, and outcomes. Educational Evaluation and Policy Analysis, 13(2), 189-202.

27.

Williams, P., Reese, C., Campbell, J., Mazzeo, J., & Phillips, G. (1994). 1994 NAEP Reading: A first look. National Center for Education Statistics. Washington, DC: Government Printing Office.

A Reader's Bill of Rights *Whereas*, all students need access to the kinds of reading opportunities that will allow them to grow up to be successful members of their society, and

Whereas, it is everyone's responsibility to offer support for providing these opportunities, and

Whereas, the ultimate goal of reading education is to create Communities of Readers where each student can fulfill his or her potential and experience the joy of reading,

Now, therefore, be it resolved that all students have certain inalienable Reading Rights:

1. **Success as a reader.** Every child is capable of learning to read and to enjoy reading. That expectation must be shared by all and must form the foundation of all approaches to reading education.

2. **Access to appropriate books.** Appealing books for a wide variety of interests, and covering all reading levels, must be available in classrooms, homes, school and public libraries, and other locations. Library schedules must be flexible so students can obtain their next book as soon as possible after completing the last one.

3. **Time to read.** Reading, like any other skill, must be practiced to be perfected. Schools must provide dedicated time during the school day to read for a variety of purposes – for pleasure, for information, for exploration.

4. **Read-aloud experiences.** All children must have regular opportunities to hear books read aloud to them. At early ages, reading aloud introduces them to the magic of print. As they grow, read-aloud encounters stretch their vocabulary, introduce them to new ideas, and demonstrate to them that adults value reading highly.

5. **Time for book discussions.** Discussing books is one of the strongest ways to build Communities of Readers, and to develop students' thinking skills. Schools must make time for book discussions – not only between teacher and student, but among students sharing books they have enjoyed.

6. **Reading role models.** In Communities of Readers, all adults – in school, at home, and across the community – show by example how they value reading and guide young people to make reading a priority in their lives. Peers and older students can also serve as reading role models.

7. **Literacy-rich environments.** Everything in students' surroundings must show that books and reading are valuable – from the presence of books in the classroom and open access to the library, to posters, bulletin boards, public recognition, and community events celebrating reading.

8. **Library support.** Libraries must not be just storage places for books. They must be dynamic places providing services specifically designed to engage young people's interest in reading. Both school and public libraries must play their parts in building the Community of Readers.

9. **Family support.** Parents, grandparents, and other family members must be encouraged to involve themselves in reading to and with their children. Opportunities must be created for families to participate in reading activities at school and community levels. Especially, since one-on-one tutoring has been proven to be the most effective way to improve reading performance, all adults, whatever their own reading abilities, must be encouraged to assist children to grow as readers. Tutoring activities can be basic, such as reading aloud to children, or require some training, such as paired reading.

10. **Community support.** Programs involving all adults, not just parents, must be developed to give the community meaningful ways to be involved with reading development. Funding for books and reading events is one way for businesses and other community members to get involved. Giving time for one-on-one tutoring activities is perhaps the most effective way for individuals, such as senior citizens, to make a contribution toward the growth of literacy.

To secure these Reading Rights as stated, all members of every community should pledge their support, time, and resources.

Adapted from the Indiana Middle Grades Reading Solutions' Reading Bill of Rights for Indiana Young Adolescents

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Terrance D. Paul is Chairman of The Institute for Academic Excellence, Inc., and Chief Executive Officer of Advantage Learning Systems, Inc. A noted educational theorist, Paul was co-developer, with his wife Judith, of the Accelerated Reader™ computerized reading management system. He has written extensively on effective motivational techniques, and directed research on both the *National Reading Study* (1992) and the *National Study of Literature-Based Reading* (1993). He is author of *How to Create World Champion Readers* (1993) and *How to Use the Accelerated Reader in Grades K-4* (1994), and general editor of *Fundamentals of Reading Renaissance* (1994). Paul received a Juris Doctor degree with honors from the University of Illinois, and a Master of Business Administration degree from Bradley University.

The Institute for Academic Excellence, Inc., was founded by Terrance and Judith Paul in 1993. The Institute empowers educators through classroom-proven strategies and techniques. It researches school needs and effective teaching approaches; this research leads to programs to help educators create measurable gains in students' academic skills. The latest Institute offering is Reading Renaissance – a comprehensive program which combines increased school reading practice time with classroom-proven techniques to dramatically improve reading growth.

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